

IN THE CLAIMS:

1. (Currently amended) A method for manufacturing a magnetic structure on a magnetic write head, comprising:

constructing a photoresist layer having a trench, the trench being formed with a flared portion near the top of the trench;

depositing a magnetic material into the trench;

removing the photoresist layer;

depositing a dielectric material;

first performing a chemical mechanical polish to remove a portion of said dielectric material;

then, after performing a chemical mechanical polish to remove a portion of said dielectric material, performing a reactive ion mill procedure to remove a further portion of the dielectric material the reactive ion mill being performed sufficiently to expose said magnetic material, the ion milling being performed in a chemistry to preferentially remove the dielectric material, leaving the magnetic material relatively unaffected.

1 2. (Original) A method as in claim 1 further comprising forming a magnetic
2 pole structure over the exposed magnetic material.

1 3. (Original) A method as in claim 1 wherein said constructing a photoresist
2 trench further comprises:
3 depositing photoresist; and
4 performing a deep ultraviolet photolithography on the photoresist.

1 4. (Original) A method as in claim 1, wherein said depositing said magnetic
2 material comprises electroplating.

1 5. (Original) A method as in claim 1, wherein said depositing said magnetic
2 material comprises electroplating said magnetic material, and terminating said
3 electroplating before said magnetic material reaches an upper opening in said
4 trench formed in said photoresist layer.

1 6. (Original) A method as in claim 1, wherein said trench includes a flared portion,
2 and wherein said depositing said magnetic material comprises electroplating said
3 magnetic material, and terminating said electroplating before said magnetic
4 material reaches said flared portion formed in said trench.

1 7. (Original) A method as in claim 1, wherein said magnetic material comprises
2 NiFe.

1 8. (Original) A method as in claim 2, wherein said magnetic pole structure
2 comprises NiFe.

1 9. (Previously presented) A method as in claim 1, wherein said reactive ion milling
2 procedure forms a recession of between 0 and 0.3 microns between said magnetic
3 structure and an upper surface of said alumina.

1 10. (Original) A method as in claim 1 wherein said magnetic structure has a width
2 sigma of less than 10 nanometers.

1 11. (Cancelled)

1 12. (Original) A method as in claim 1 wherein said trench formed in said photoresist
2 layer has a width sigma of less than 10 nanometers up to a location where said
3 magnetic material deposition will terminate.

1 13. (Original) A method as in claim 1 wherein said dielectric material is alumina
2 (Al_2O_3).

1 14. (Original) A method as in claim 1 wherein said magnetic structure is a P3
2 pedestal of a magnetic pole.

1 15. (Original) A method as in claim 1 wherein said reactive ion mill is performed in
2 an atmosphere comprising CHF_3 .

- 1 16. (Original) A method as in claim 1 wherein said reactive ion mill is performed
2 sufficiently to create a recess between an upper surface of said magnetic structure
3 and an upper surface of said dielectric material.
- 1 17. (Previously presented) A method as in claim 1 wherein said reactive ion mill
2 creates a recess between an upper surface of said magnetic layer and an upper
3 surface of said dielectric layer wherein said recess is between .1 and .3 microns
4 inclusive.
- 1 18. (Currently amended) A method as in claim 1 wherein said reactive ion mill
2 creates a recess between an upper surface of said magnetic layer and an upper
3 surface of said dielectric layer wherein said recess is about .3 microns.
- 1 19. (Withdrawn) A structure formed on a magnetic write head, comprising:
2 a magnetic structure having an upper surface and having first and second lateral
3 sides and having a width measured between said lateral sides and having a height
4 measured perpendicular thereto;
5 a dielectric layer contacting said first and second lateral sides of said magnetic
6 structure and extending laterally therefrom and having an upper surface; and
7 wherein
8 said upper surface of said dielectric layer is recessed from said upper surface of
9 said magnetic structure and said upper surface of said dielectric layer.

1 20. (Withdrawn) A structure as in claim 19 wherein said recess is between .1 and .5
2 microns.

1 21. (Withdrawn) A structure as in claim 19 wherein said recess is about .3
2 microns.